

Example 1. Find the area between $y = e^x$ and $y = 2x$ bounded by $[0, 2]$.

Example 2. Sketch the region bounded by $y = 2x^2$ and $y = 3x - x^2$, and find the area.

Example 3. Sketch the region enclosed by $y = \sin x$ and $y = \cos x$ over $[0, \pi/4]$, and find the area.

Example 4. Sketch the region enclosed by the parabola $y = x^2$ and the line $y = 2x + 3$, and find the area.

Example 5. Sketch the region bounded by $y = x$ and $y = 3\sqrt{x}$ over $[1, 4]$, and find the area.

Example 6. Sketch the region enclosed by $y = \sin x$ and $y = \cos x$ over $[0, \pi]$, and find the area.

Example 7. Sketch the region bounded by $y = x^3$ and $y = \sqrt[3]{x}$, and find the area.

Example 8. Sketch the region enclosed by the parabola $x = y^2$ and the line $y = x/2 - 3/2$, and find the area.

Example 9. Sketch the region enclosed by the parabola $x = 2y^2$ and the line $x = 3 - y^2$, and find the area.